LONG LAKE BACKGROUND REPORT
WINTER 1985

Prepared by
Alberta Municipal Affairs
Planning Branch

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1. INTRODUCTION

1.1 Introduction (Map 1)

Long Lake is a long, narrow lake approximately 13.5 km long and 1 km wide at the widest point, set in a heavily wooded valley. It is located about 112 km northeast of Edmonton with the nearest communities being Newbrook, Thorhild, and Boyle.

With the exception of cottage development located north of the Long Lake Provincial Park, the remaining shoreland and immediate hinterland is undeveloped. Nevertheless, in anticipation of development pressure and lake user conflicts, the County of Thorhild has requested that a Long Lake Background Report and Lake Management Plan be prepared for Long Lake.

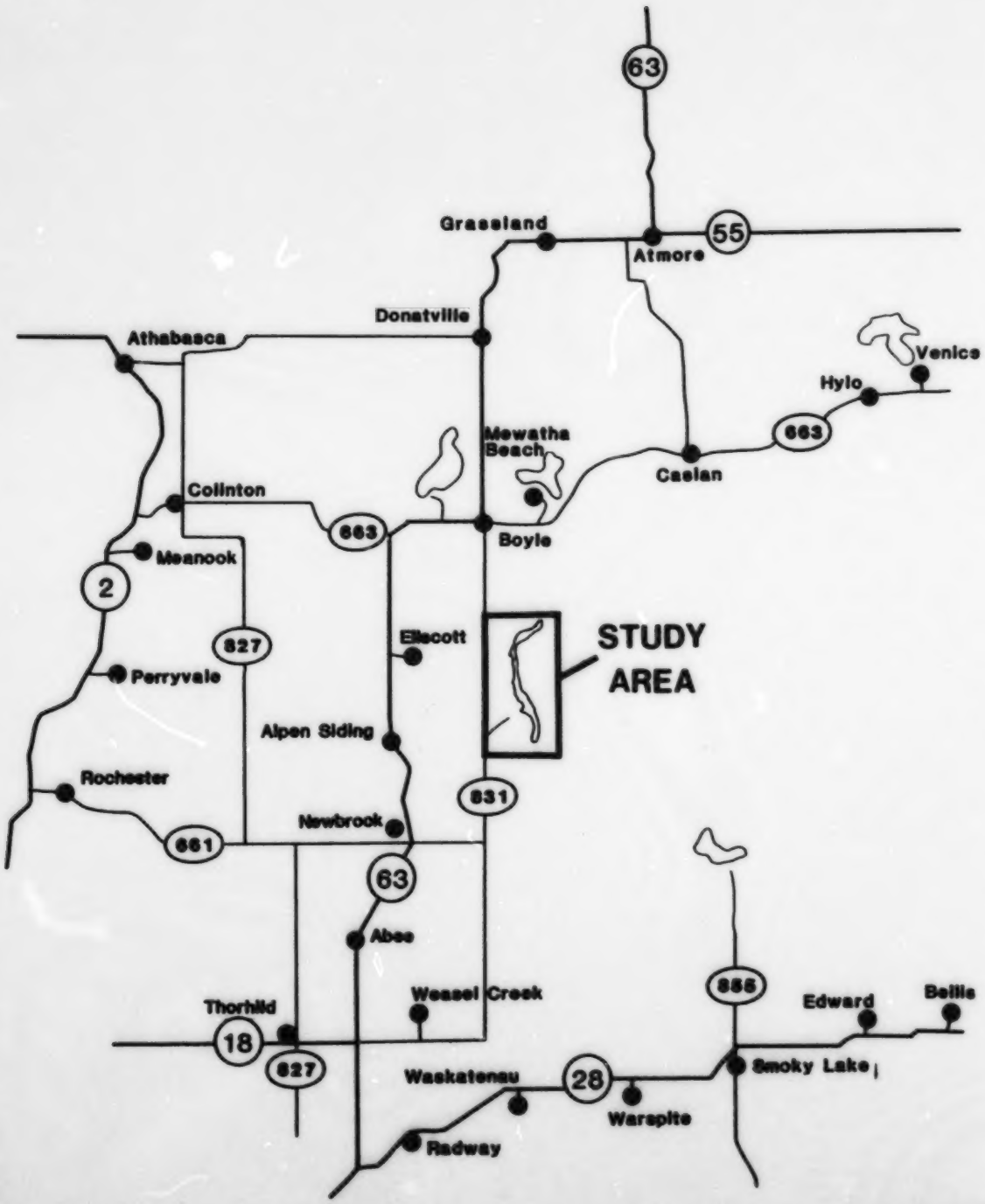
The purpose of the Long Lake Background Report is to present information necessary for discussion so that the Long Lake Planning Committee, with input from other government agencies, can formulate the most appropriate management strategy for Long Lake. This will in turn initiate the preparation and adoption of the Long Lake Management Plan.

1.2 Planning Process

The planning process was developed in consultation with the County of Thorhild No. 7 and is comprised of the following steps:

1. conduct an initial analysis and evaluation of the lake resource to determine development constraints and potential;
2. prepare a background report for review and discussion;
3. establish management goals to guide the development of management alternatives;
4. develope management alternatives based on management goals for review and discussion;
5. select a preferred management alternative; and
6. prepare a Lake Management Plan to be adopted by the County of Thorhild No. 7.

MAP 1
REGIONAL SETTING



2. GENERAL SETTING

2.1 The Study Area (Map 2)

The Study Area is comprised of Long Lake itself, shoreline and adjacent shorelands extending approximately 1.6 km from the high water level of the lake. The area was designed to encompass that area in which the greatest development pressures and impacts on the lake are normally expected to occur and includes developments already in existence. This would include the Long Lake recreational area operated by the County of Thorhild No. 7, the Long Lake Provincial Park and the cottage development north of the Park. This constitutes a total area of 83 sq km of which the majority is Crown Land.

Long Lake is located within the administrative boundary of the County of Thorhild No. 7. Access is provided by Highway 63 to Newbrook, east on Secondary Road 661 to Secondary Road 831 and north on 831 to the west side of Long Lake Provincial Park. No access is currently available to the east side of the lake.

It should be noted that although Sections 22, 27, 34 of Township 63, Range 19, West of the 4th Meridian are included in the Study Area, these Sections are located in the County of Athabasca and will be exempt of the Lake Management Plan.

2.2 Lake Characteristics (Maps 3 & 4)

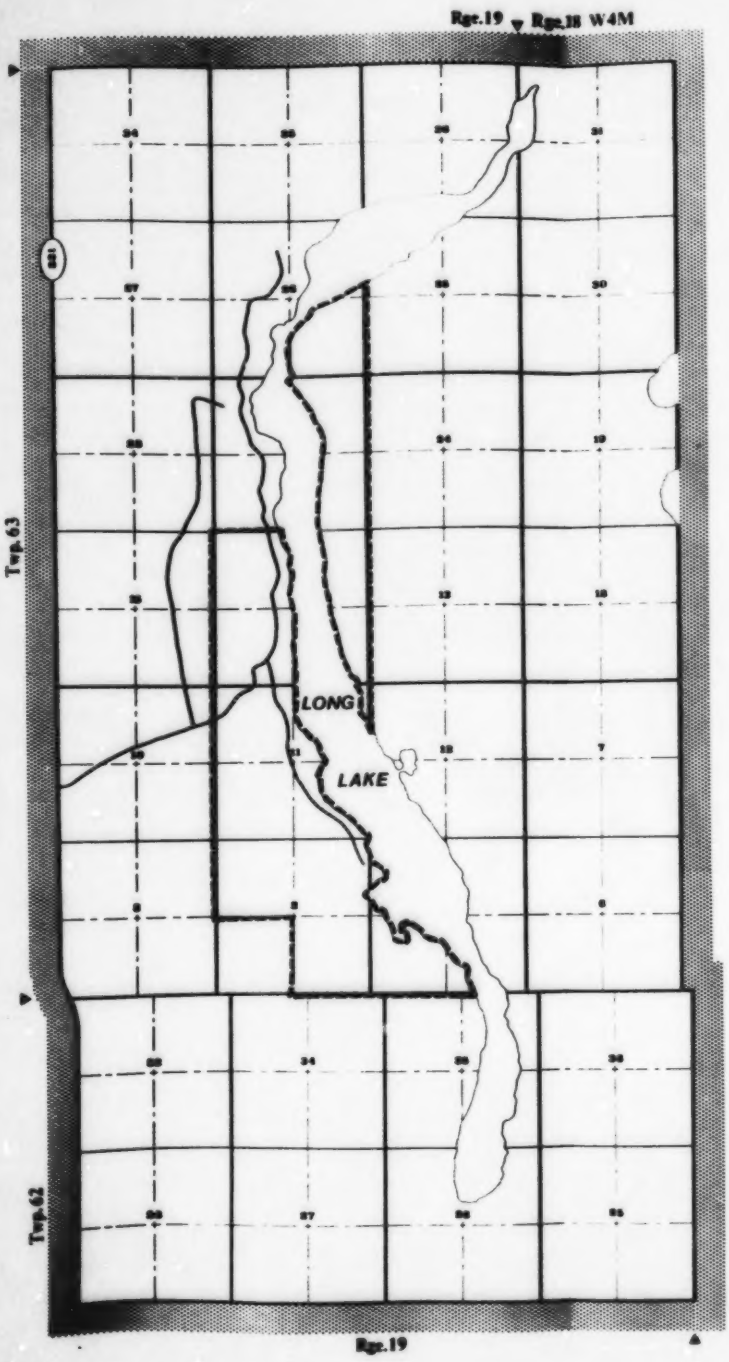
Long Lake, which is the only large body of surface water in the Study Area, covers approximately 6.1 sq km. The lake occurs in a major valley referred to as the Long Lake Valley and was formed during the Pleistocene Epoch, leaving the bed of present-day Long Lake oriented in a north-south line. On either side of this bed, banks and other surface deposits of glacial till mixed with sand and gravel were deposited to form a hummocky and ridged lateral moraine.

Long Lake lies approximately 61 m below the level of the surrounding terrain. On the western side of the lake, the land drops in moderately steep slopes between 400 to 800 m before reaching the lake's edge. These slopes are cut by old stream channels which feature very steep banks. On Long Lake's east side, the banks are nowhere over 42.6 m and averages only 15 m above the lake level. The area is a slightly sloping plain, behind which the land rises in a series of ridges and terraces until it reaches the level of the surrounding countryside.

The lake itself is part of a large meltwater channel extending southward from the northern tip of Amisk Lake, through Long Lake, and along White Earth Creek to its junction with Edward Creek near the Town of Smoky Lake. This meltwater channel is part of two watersheds, the divide between which is a point about 4.8 km south of Long Lake. Water flow in the section of the meltwater channel to the south of this point is southward through the White Earth Creek into the North Saskatchewan River. To the north of this point, the flow is in a northward direction into the Amisk River – Beaver River system.

The lake is generally less than 1.5 m deep along the shore and then drops off relatively rapidly to a depth of 4.7 – 7.6 m. The central portion of the lake generally has a flat bottom. The maximum depth of the lake, which is slightly greater than 9.1 m, occurs just east of the western portion of Long Lake Provincial Park.

MAP 2
STUDY AREA



------ Long Lake Provincial Park Boundary

Scale: Kilometres

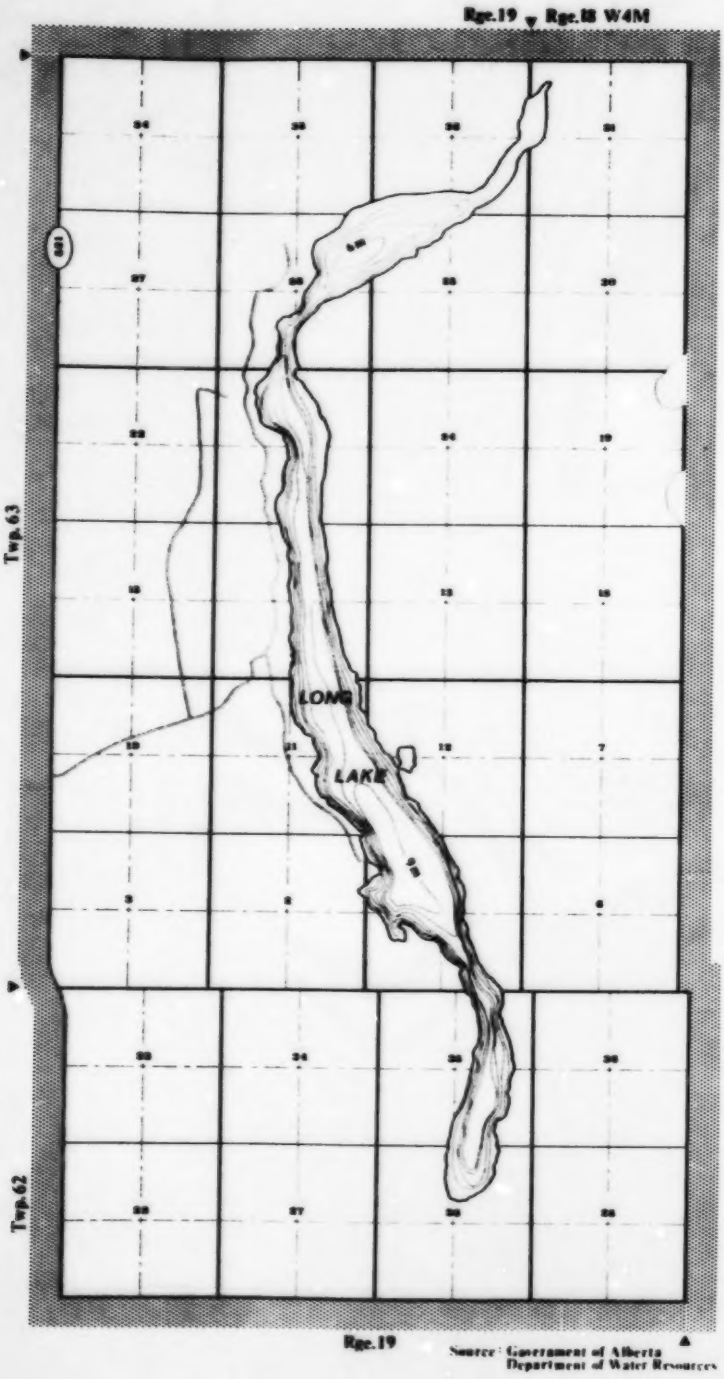
1 0 1 2 3 4

MAP 3
DRAINAGE BASIN AND TOPOGRAPHY

Source: Government of Alberta
Department of Water Resources

MAP 4

HYDROGRAPHIC SURVEY OF LONG LAKE



Source: Government of Alberta
Department of Water Resources

Contour Interval = 1.5 Metres

Scale: Kilometres

1 0 1 2 3 4

2.3 Lake Condition, Water Quality, & Fluctuations

Beginning in 1983, Alberta Environment conducted monthly sampling of the water quality of Long Lake and concluded that Long Lake may be termed mildly eutrophic (meso-eutrophic). The lake will have an occasional algae bloom and will normally be suited for a variety of recreational activities. The process of eutrophication occurs over time as more nutrients are released into the water. Nutrient enriched water encourages further plant growth while minimizing the oxygen supply and therefore, the survival for a variety of fish species. Since Long Lake is mildly eutrophic, steps to minimize nutrient loading wil prolong the Lake's recreational assets.

For several years, lake level data has been recorded by Alberta Environment and according to their records, the maximum observed water level was 621.121 m. on June 2, 1978 and the minimum observed water level was 620.497 m. on October 20, 1972. Between 1980-1984, the mean difference between the maximum and minimum water level is .2726 m.. Currently, the water level is 620.783 m., recorded on July 22, 1985.

2.4 Vegetation

The Study Area lies within the Mixed Wood section of the Boreal Forest Region – Aspen Parkland Transition Zone. Seven basic plant community types are found and designated by their most conspicuous plant species or plant association. They are as follows:

1. Saskatoon – Low Shrub community existing on steep south-facing slopes.
2. Jack Pine community found on rapidly drained sandy soil.
3. White Spruce, in the absence of fire, appear to be the climax community type of the Boreal Forest – Aspen Parkland Transition Zone.
4. Sedge-Grass communities are found on the wet margins and poorly drained depressions of the Long Lake area.
5. Black Spruce – Labrador Tea Bogs are found throughout the Study Area.
6. The Willow-Tall Shrub community is found in areas with a firm enough substrate to permit more than just superficial rooting, but too wet for most tree species.
7. Aspen and Balsam Poplar Forest community dominate the Study Area. In areas which experience periodic fires, such as Long Lake, the White Spruce will be destroyed and replaced by aspen and balsam poplar.

2.5 Climate, Precipitation, & Wind

The Study Area is located in a continental type climate, with short, cool summers and long, cold winters. The mean monthly temperature ranges between – 17 degrees Celsius in January and 16 degrees Celsius in July, with a yearly mean of 1.4 degrees Celsius.

The mean annual precipitation is 464.6 mm. Rain accounts for 68 percent of this total, with 315.7 mm falling mostly in June, July, and August. Snowfall amounts to 148.9 mm evenly distributed over the winter season.

The average annual wind speed in the study area is 3.1m/sec.. Two main directions dominate the winds. Winds which originate in the S, SSE, and SE comprise 30 percent of the sources of wind. The other main winds, representing 25 percent of the flow, are from the W, WNW, and NW. It is calm for 13 percent of the year.

2.6 Local History & Development

The area around Long Lake was originally fur-trading country. David Thompson and Peter Fidler established trading posts on the southwestern shore of Lac La Biche, approximately 64 km northeast of Long Lake. The famous river landing and fur trail at Athabasca Landing is 48 km northwest. The Town of Boyle, 18 km to the north, had a fur trading background; at one time many important fur trade routes passed through the area.

In 1911 a survey map was made of the area, on which Long Lake was referred to as Lake No. 1. Labelling a lake is standard procedure when the place in question has no accepted name. It appears that the lake's description sufficed as a name. There is no way of knowing who was responsible for suggesting it. Undoubtedly, it is a case of common usage becoming official record.

The area around the lake was not settled because of the steep, wooded character of the land. In the early years of settlement there were seven sawmills at various times on the western shores of Long Lake, two of them located within the present park. The first mill was established in 1918 by "Doc" Berry, a veterinarian. This mill was located on the northern edge of the park, and produced 10-20 million board feed of lumber during its time of operation. In the early 1920's Raskawich and Chambers produced half-million board feet from a mill which was at the south end of the park.

Lumbering operations were hampered by forest fires, more so, it seems than in other parts of the province. In the early days, the bush was occassionally set on fire by Indians looking for Seneca root. Then, in the 1930's, a squatter by the name of Kulka was responsible for destroying many board feet of lumber. By 1940, most of white spruce had been logged out of the area, and timber cutting ceased around Long Lake.

The recreational potential of Long Lake has been recognized for some time. As early as 1919, Ernie McNee established a resort of sorts on the southeastern side. However, although the lake continued to be popular locally, and with fishermen, nothing was done in an official way until August 13, 1956, when the Council of the County of Thorhild No. 7 wrote a letter to the Provincial Parks Board requesting that a provincial park be established on Section 11 and the west half of Section 14 in Township 63-19-W4th Meridian. They offered $1,502.00 of their Jubilee Grant for the development of the beach and a further $2,000.00 for road improvements. They had received an additional donation of $200.00 from private sources. There were many organizations interested in this park from the communities of Newbrook, Boyle and Thorhild, and as far away as Redwater. Work on the park would be voluntarily donated. It was estimated by the local residents that the annual attendance could be from 100,000 to 150,000 people, once some improvements were made.

A 1956 report on the area by C.H. Harvie, recommended that a park be established there, saving only poor access as the one drawback to such an undertaking. At that time, Long Lake could only be reached by a trail; the County of Thorhild undertook to build a graded road from Highway 46, north of Newbrook, to the lake. Reservations were placed on Sections 11, 14, 23, and 26 west of Long Lake, and Long Lake Provincial Park was established by Order-in-Council 478/57 on March 25, 1957.

Work began on the park in 1958, when the road was completed. In April of that year, a local advisory committee was formed from residents of Newbrook, Redwater, Thorhild, and Waskatenau. In 1958 and 1959, basic facilities were erected in the park, outhouses and picnic shelters, the beach was cleared, and underbrush removed.

It has originally been stated that it was "the intention of the Provincial Parks Board to survey a subdivision in this park as soon as possible. It is hoped that we will be able to survey 150 separate lots." The subdivision was planned for Sections 23 and 26-63-19-W4th Meridian, on the western side of the lake.

By August of 1958, the subdivision had been surveyed, comprising 285 lots and encompassing an area of 66 ha. An extension of the road to reach this subdivision, was tendered to Messrs. Cramer and Humm of Newbrook, for $4,500, less gravel. Individuals who wished to secure a lease in the park were given until the 3rd of October to file an application.

By the following year, there had been a change in Parks Board policy regarding cottage subdivisions in provincial parks. Accordingly, the boundaries of Long Lake Provincial Park were altered by Order-in-Council 89/59, passed on January 20, 1959. In this new alignment, those parts of Sections 11, 14, 23, and 26 east of the lake, were included in the park, and Sections 23 and 26 west of the lake (where the subdivision was located), were transferred to the Lands Division.

The most recent development around Long Lake, has been that of a ski area. In November of 1965, Mr. R.E. Baycroft of the Long Lake Community Association made an inquiry concerning winter recreation in Long Lake Provincial Park. It was felt that the park had potential as a winter resort area, if skiing facilities were made available. In 1968, the Parks Board finally killed this project, with a report that no areas within the park are suitable for skiing. Since then the County of Thorhild has established its own ski development outside the park. This is on a recreational lease to the west of the cottage subdivision. In 1972, the Long Lake ski slope, with chalet, toboggan slides, cross-country ski trails, and skidoo trails began operation. Nearby, there is a convenience store on the gravel road leading towards Long Lake Provincial Park and the resort subdivision.

2.7 Present Land Use (Map 5)

The Study Area is comprised of Crown Land with the exception of the Long Lake Provincial Park, a cottage subdivision north of the Park, the County of Thorhild ski hill and recreational area, and seven quarter sections of patented land alongside Secondary Road 831 south of the road access to the Provincial Park.

The Crown Land is managed by the Provincial Government, some of which is leased to individuals or organizations for grazing purposes. The balance is leased for recreational use (County of Thorhild ski hill), protected as a sensitive wildlife habitat or simply held under the stewardship of the Crown.

The Long Lake Provincial Park, established in 1957, is approximately 698 ha.. It is intensely used as a destination camping site ranking third for total party nights in the provincial park system in 1982. It also serves as a regional day use area.

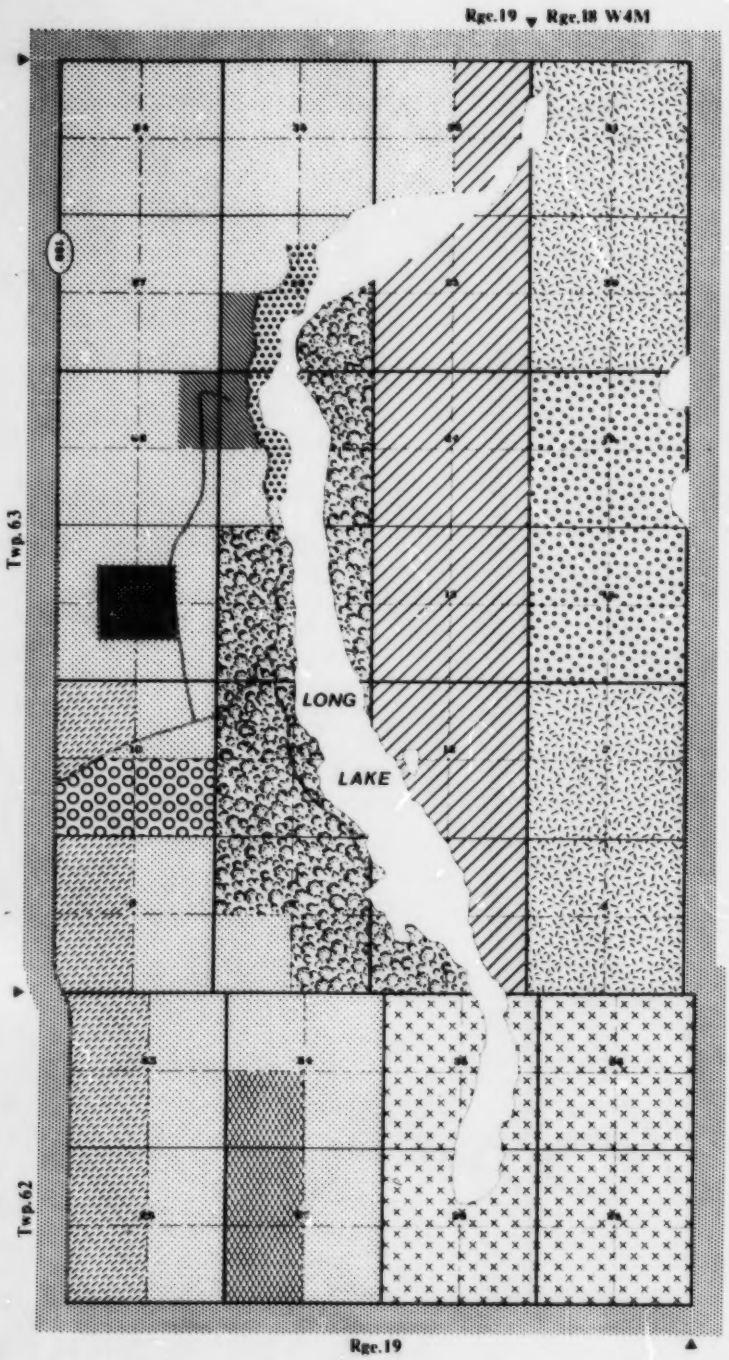
In 1958, a subdivision for cottage development was registered north of Long Lake Provincial Park. There were 285 lots registered, however, after discovering that 129 lots were unsuitable for a building site, 156 lots were eventually sold. Today, most of the privately owned lots have been developed, creating the only privately developed area adjacent to Long Lake.

The County of Thorhild leases the east half of the NE22-63-19-4, a portion of the NW23-63-19-4, and a portion of SW26-63-19-4 for recreational activities. The all-season recreational area offers nature trails and limited camping in the summer while operating a ski chalet accompanied with ten downhill ski runs and four interconnected cross-country ski trails during the winter season.

Excluding the cottage development, there are seven quarter sections in the Study Area which are privately owned. The majority are located parallel to Secondary Road 834, south of the access to Long Lake Provincial Park and are used for agricultural and grazing purposes. Located nearby the junction of Secondary Road 834 and the access road to Long Lake Provincial Park, is a grocery store/gas bar accompanied with a private campground and miniature golf course.

MAP 5

PRESENT LAND USE



- Protective Notation (1969-1989) Proposed Grazing Reserve site or expansion. No agricultural dispositions except grazing permits.
- Protective Notation (1975-1980) Wildlife Habitat Protection. No agricultural dispositions except grazing/haying.
- Consultive Notation (1969-1989) Proposed Grazing Reserve site or expansion. No restriction.
- Long Lake Provincial Park
- RLC 2 – Conservation reservation. Public Lands, available for grazing lease or permit.
- Patented land
- Reserved for Thorhild Grazing Reserve (1960) No dispositions.
- D reservation – Recreation and Parks – sewage lagoon
- Recreation lease (1970-1991) County of Thorhild ski hill.
- Subdivision
- Crown Lands
- Thorhild Grazing Reserve

Scale: Kilometres

1 0 1 2 3 4

3. RESOURCE INVENTORY AND EVALUATION

3.1 General Resource Capability

In order to determine a range of management alternatives for Long Lake, it is important to consider and evaluate the resource capabilities of the lake environment to accommodate various types and intensities of use. The Canada Land Inventory (C.L.I.) has been used to assess the shoreland resource.

Canada Land Inventory provides basic infromation which is useful in analyzing potential land uses in the Study Area. C.L.I. classifies land from Class 1, being the highest rating, to Class 7, which is the lowest rating, according to its relative suitability and capability for agriculture, forestry, recreation, and wildlife habitat. The analysis for the wildlife and fish habitats has been complemented by a report submitted by Fish & Wildlife, Alberta Energy & Natural Resources.

3.1.1 Agriculture (Map 6)

The soils immediately surrounding the shores of Long Lake and within the Long Lake valley have severe soil limitations due to adverse topographic features interspersed with patches of muskeg.

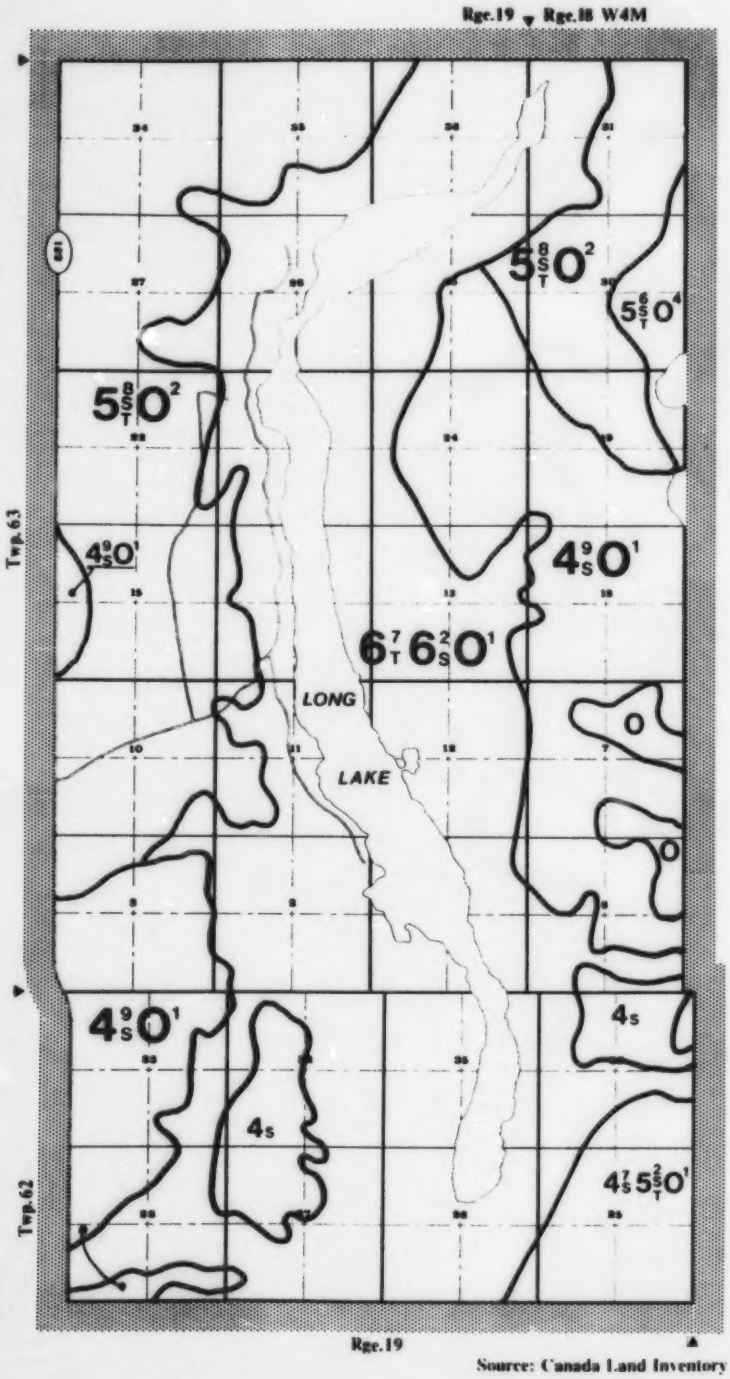
The balance of the Study Area is comprised of Class 4 and Class 5 soils, which may be limited to the following: undesirable structure, low permeability, restricted rooting, low natural fertility, low moisture-holding capability, and salinity.

3.1.2 Forestry (Map 7)

The predominant indicator species in the Study Area are white spruce, black spruce, and jack pine. White spruce is the principal indicator species, except where a moisture surplus or moisture deficit exists. Where a moisture surplus exists, black spruce replaces white spruce as the index species, and where there is a moisture deficit, jack pine replaces white spruce.

Most of the Study Area is rated Class 4. These lands have moderately severe limitations to the growth of commercial forests as productivity is limited by either a soil moisture deficiency or a soil moisture excess.

Class 5 lands are located along the southwestern shore of Long Lake. This area has severe limitations to commercial forest growth as the soils possess poor moisture holding capabilities and a restrictive rooting zone by bedrock.



Source: Canada Land Inventory

MAP 6

AGRICULTURAL CAPABILITY

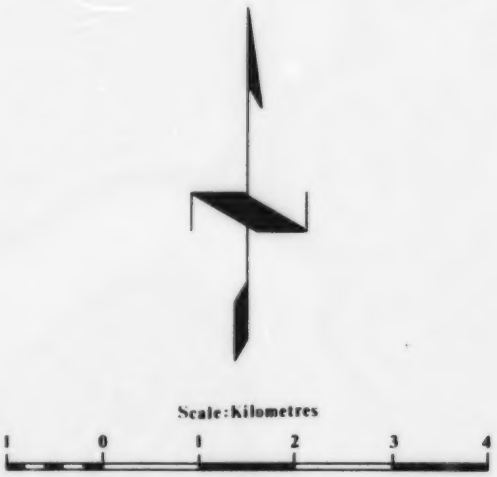
Classes

4	Severe Limitations
5	Very Severe Limitations
6	Unresponsive to Improvements
O	Organic Soils

Subclasses

S Soil Limitations
T Adverse Topography

Example: An area of Class 4 land with soil limitation and Class 0, in proportion of 9:1 is shown thus: $4^{9}_{S}O^{1}$



3.1.3 Recreation (Map 8)

The shoreline of Long Lake varies from a moderately high to moderately low capability for outdoor recreational use.

Class 3 shoreline, which is predominantly located along the western shore of Long Lake is capable of sustaining a moderately high amount of intensive or moderately intensive activities. The majority of Class 3 shoreline is either located in Long Lake Provincial Park or the cottage development north of the Park's boundary. Not surprising, the predominant features of the Class 3 shoreline are camping, boating, and beach activities.

Class 4 shoreline, which is predominantly located along the eastern shore of Long Lake, is capable of sustaining moderate recreational activities. The Class 4 shoreline is suited to family or other recreation lodging use accompanied with areas suitable for swimming and boating.

Class 5 shoreline, which is capable of sustaining moderately low, dispersed recreational activities is generally located in either end of Long Lake. Angling and viewing the wetland wildlife are the predominant characteristics of this area.

3.1.4 Wildlife – Ungulates (Map 9)

According to Fish & Wildlife, Alberta Energy & Natural Resources, the Long Lake valley and associated uplands constitute some of the most productive moose habitat in Alberta. Due to the diverse topography, a good food supply and winter protection contributes to the maintenance of high moose numbers. The area also supports a wide variety of species including passerine birds, water associated birds, and small fur bearers. Currently, there are two active traplines in the study area.

3.1.5 Fish Habitat

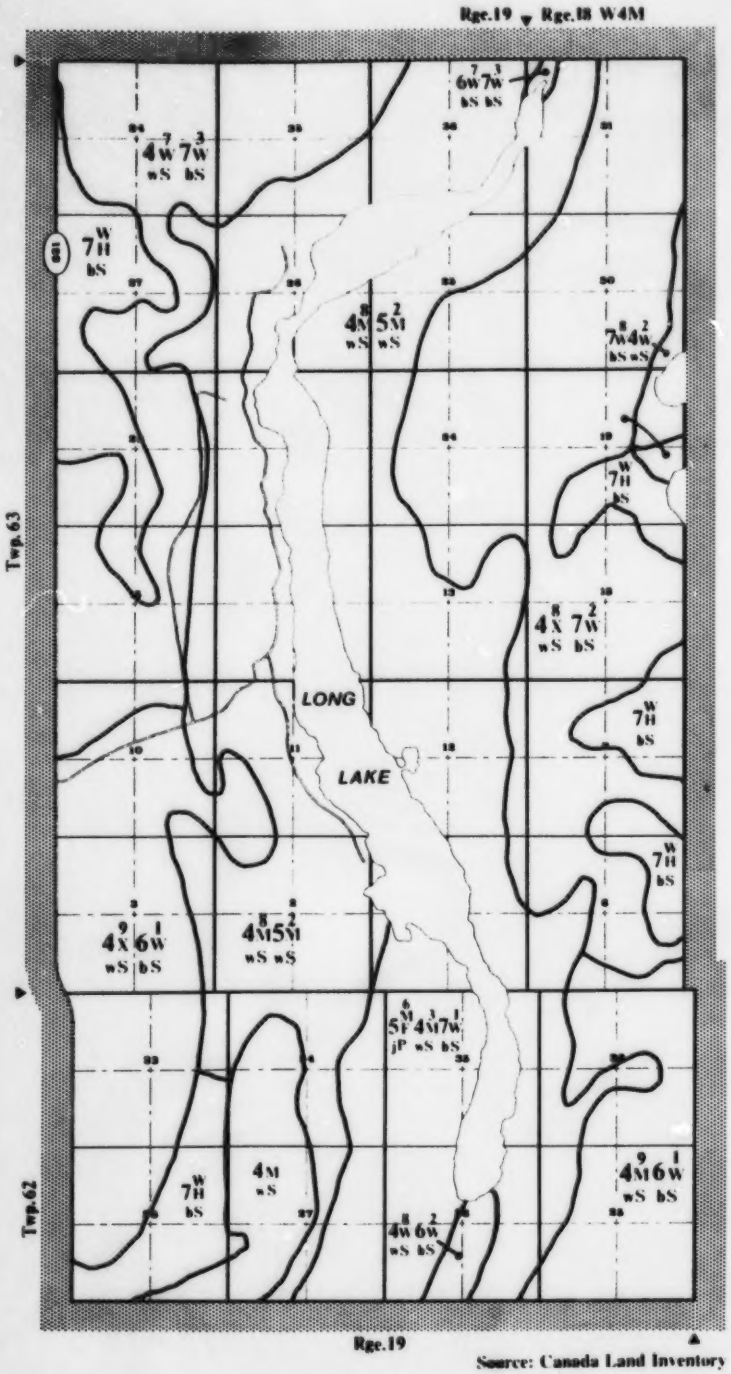
Long Lake is a small, productive lake containing three fish species of interest to anglers, namely walleye, pike, and perch. The commercial fishing records and physical characteristics of the lake indicate that Long Lake can exhibit good production of these species and could support approximately 2,000 to 3,000 anglers per year (assuming one fishing trip per angler).

With regards to fish habitat, the north basin which is relatively shallow can be assumed to be an important spawning area for pike and perch and an important feeding area for all fish during the early spring.

3.1.6 Historical and Archeological Resource

There is very little information on the area to date. However, this does not negate the possibility of there being historic structures in the area.

Similarily, there exists the possibility that early Paleo-Indian sites may be associated with the topographic highlands of the Long Lake valley. In general, prehistoric sites are known to concentrate on lakes in north central Alberta, therefore the shoreline of Long Lake is considered to have high to moderate potential for the discovery of historic resource sites.



Source: Canada Land Inventory

MAP 7
FORESTRY CAPABILITY

Classes

4	Moderately Severe Limitations
5	Severe Limitations
6	Very Severe Limitations
7	No Forest Production

Subclasses

E	Actively Eroding Soils
F	Low Fertility
M	Soil Moisture Deficiency
W	Soil Moisture Excess
X	A pattern of M and W
R	Restriction of Rooting Zone By Bedrock
H	Low Temperature Restrictions

Tree Species

jP	Jack Pine
bS	Black Spruce
wS	White Spruce

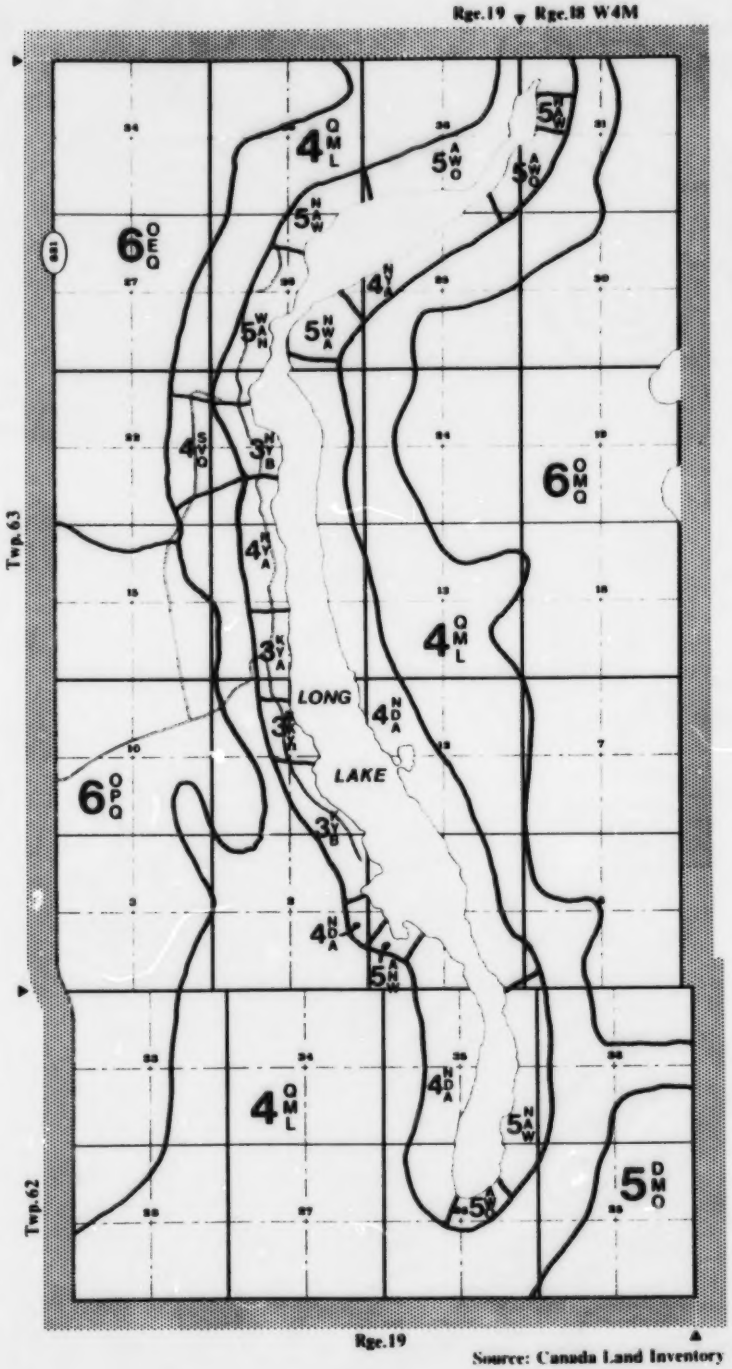
Example: An area of Class 4 with a combination of soil moisture excess and deficiency dominated by white spruce and Class 7 with soil moisture excess dominated by black spruce, in proportion of 8:2 is shown thus: $4^{8}_{wS}\ 7^{2}_{bS}$

Scale: Kilometres

1 0 1 2 3 4

MAP 8

RECREATION CAPABILITY



Source: Canada Land Inventory

Classes

3	Moderately High Capability
4	Moderate Capability
5	Moderately Low Capability
6	Low Capability

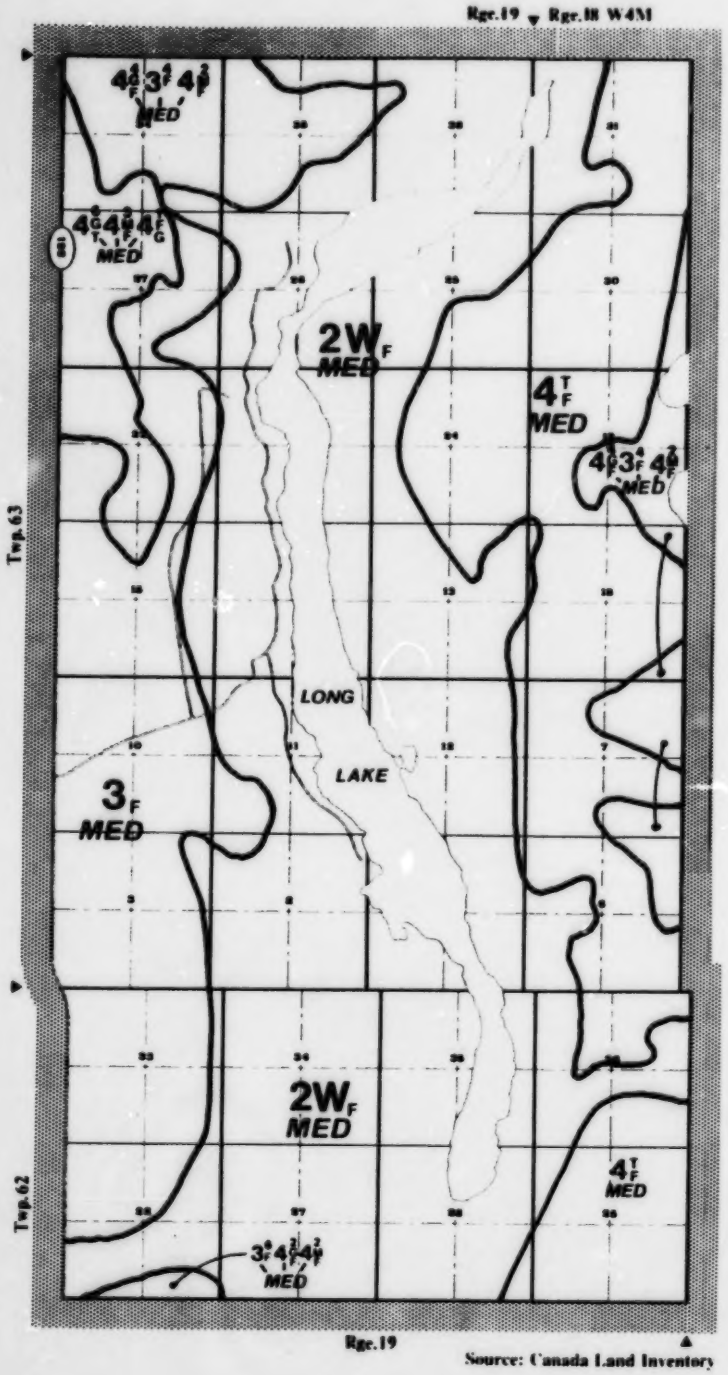
Subclasses

A	Angling
B	Beach Activities
D	Deep Inshore Water
E	Vegetation
K	Camping
L	Land forms
M	Streams
N	Lodging/Cottaging
O	Upland Wildlife
P	Cultural Landscape
Q	Landscape Variety
S	Skiing
V	View
W	Wetland Wildlife
Y	Boating

Example: An area of Class 3 with moderately high capability to generate family beach activities, fronting and providing access to a water body suited to boating, and with a backshore suited to camping is shown thus:

Scale: Kilometres

1 0 1 2 3 4



MAP 9

WILDLIFE-UNGULATE CAPABILITY

Classes

2W	Very Slight Limitations (Winter Range)
3	Slight Limitations
4	Moderate Limitations

Subclasses

- F Fertility Limitations
- G Landform Restrictions
- M Soil Moisture Limitations
- T Adverse Topography

Ungulate Species

- D Deer
- E Elk
- M Moose

Example: An area of which 40% is Class 4 for moose with limitations due to land formations and nutrients in the soil for plant growth, 30% is Class 3 for elk with deficient nutrients in the soil for plant growth and 40% is Class 4 for deer with deficient nutrients in the soil for plant growth and poor soil, is shown thus:

$4^{4}_{T}\ 3^{3}_{F}\ 4^{2}_{F}$
M E D

Scale: Kilometres

3.2 Soil Suitabilities

The Soils Division of the Alberta Research Council has conducted studies to evaluate soil characteristics under various conditions to determine their suitability for cottage development, sewage assimilation, road construction, and intensive recreation. The following is an examination of the Study Area using Alberta Research Council evaluation system. The major soil types found in the Study Area are Athabasca, Edwand, Rough Broken, Fibrisol, Mesisol, Codesa Complex, Uncas, and Newbrook. (Map 10).

3.2.1 Cottage Development (Map 11)

Excluding the north and south ends of the lake, the land along the shoreline is considered good for cottage development. Nevertheless, caution should be exercised where an area experiences seasonally high water tables, or surface ponding. There is a small portion of land (Section 36-19-63-4) which is north-east of the existing cottage development that is considered good for cottage development. Nevertheless, access to the lake is limited by a low, swampy shoreline. Further constraints such as gullies, stream valleys, scarps, and erosional slopes located along the banks of the major Long Lake valley would likely impede cottage development. Cottage development on the highlands above Long Lake valley is considered good in spite of areas of organic terrain, commonly known as muskeg.

3.2.2 Sewage Assimilation (Map 12)

The majority of the Long Lake valley and shoreline area is considered variable for sewage assimilation. Areas considered good correspond to those areas identified for cottage development but with no constraints. Areas considered poor for sewage assimilation are located at the inflow and outflow of the lake. Sewage assimilation on the highlands above Long Lake valley is considered fair with pockets of poor areas (muskeg).

3.2.3 Road Construction (Map 13)

There are limited areas in the Long Lake valley and shoreland which is considered good for road construction. In fact, the majority of the area is fair to poor. The existing cottage development is considered good and a portion of Section 36-19-63-4 and a portion of Sections 27, 34, 35-19-62-4 is considered good to fair. The highlands above the Long Lake valley is considered fair.

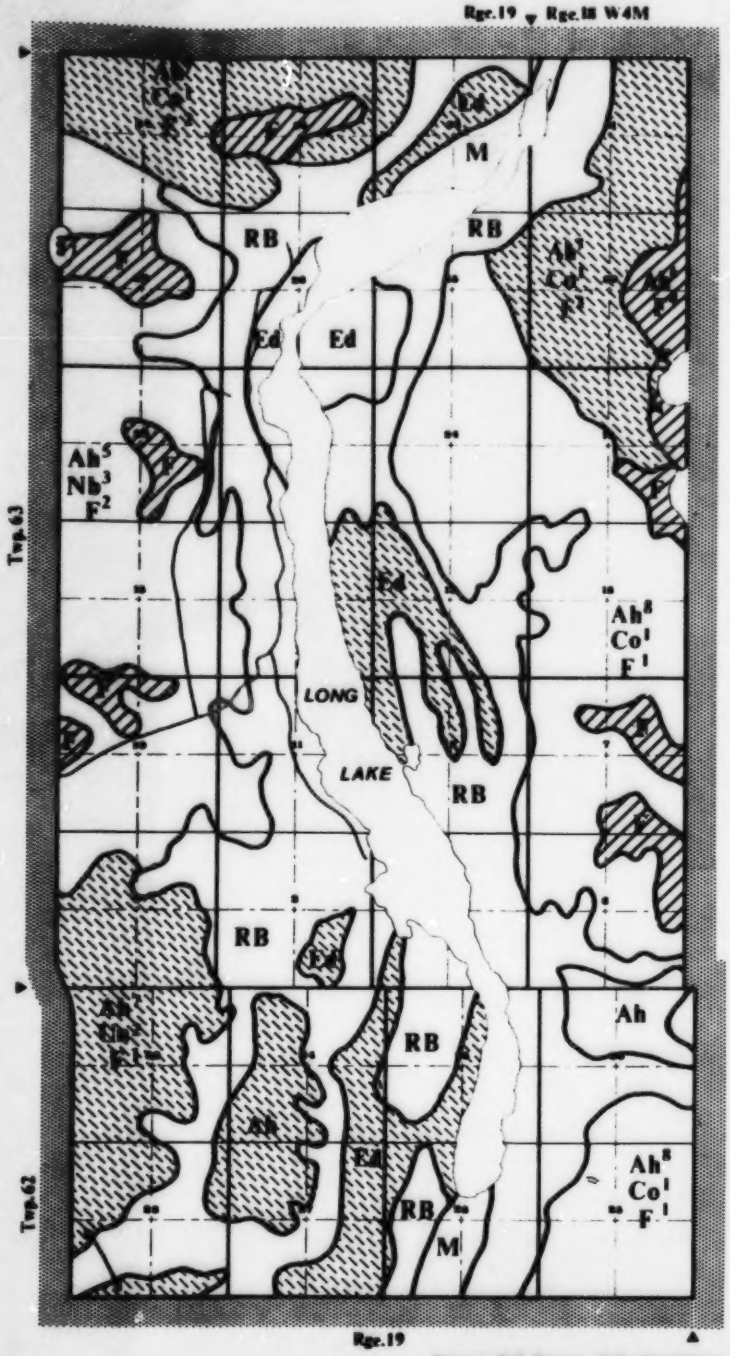
3.2.4 Intensive Recreation (Map 14)

The area in the Long Lake valley and along the shoreline is considered variable with smaller portions considered fair. Interestingly, the existing cottage area is considered to be fair. The inflow and outflow of the lake is considered poor. The highlands above the Long Lake valley is considered to be good excluding small areas of muskeg.

3.2.5 Summary (Map 15)

Six areas have been identified as developable based on the soil suitability for road construction, cottage development, intensive recreation, and sewage assimilation. Each area varies in size, configuration, and location with some areas more desirable than others dependent upon accessibility, topography, shoreline frontage, adjacent land uses, and environmental impact.

Two areas are more or less within the boundary of the Provincial Park with limited access by boat. Another area is the cottage development north of the Park. The remaining areas are located at either end of the lake on the western shores. The area to the north has limited shoreline frontage with limited access, whereas the areas to the south have shoreline frontage with no access.



Source: Soil Survey of the Tawatinaw

MAP 10
SOIL TYPE AND SLOPE

SOIL TYPE:

Ah	Athabasca
RB	Rough Broken
Ed	Edwand
Co	Codesa Complex
M	Meniscl
F	Fibrisol
Un	Uncas
Nb	Newbrook

SOIL SLOPE:

5-9%

9-15%

Note: All Areas Without Patterns Are 0-5%

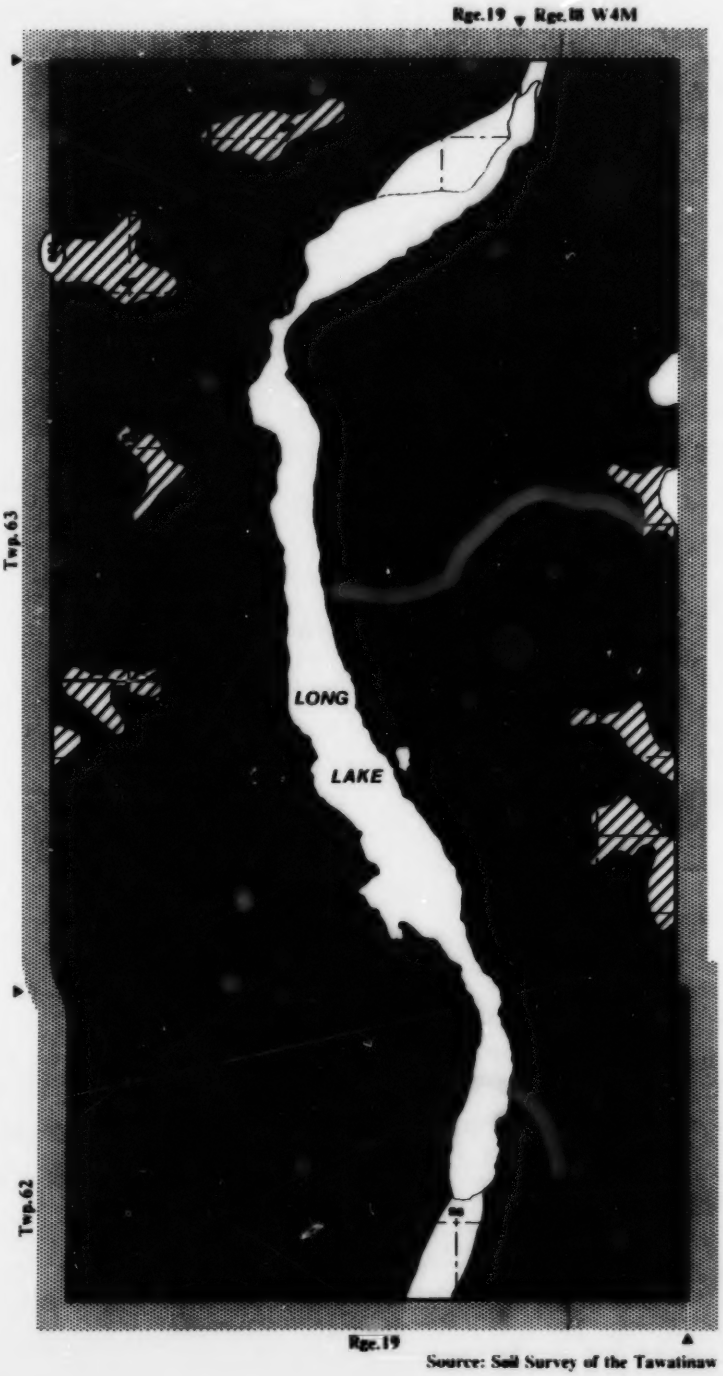
Example: An area of which 80% is Athabasca, 10% Codesa complex and 10% Fibrisol soil, is shown thus: $Ah^{8}\ Co^{1}\ F^{1}$

Scale: Kilometres

1 0 1 2 3 4

MAP 11

SOIL SUITABILITY FOR COTTAGE DEVELOPMENT



GOOD

POOR

SOIL SLOPE

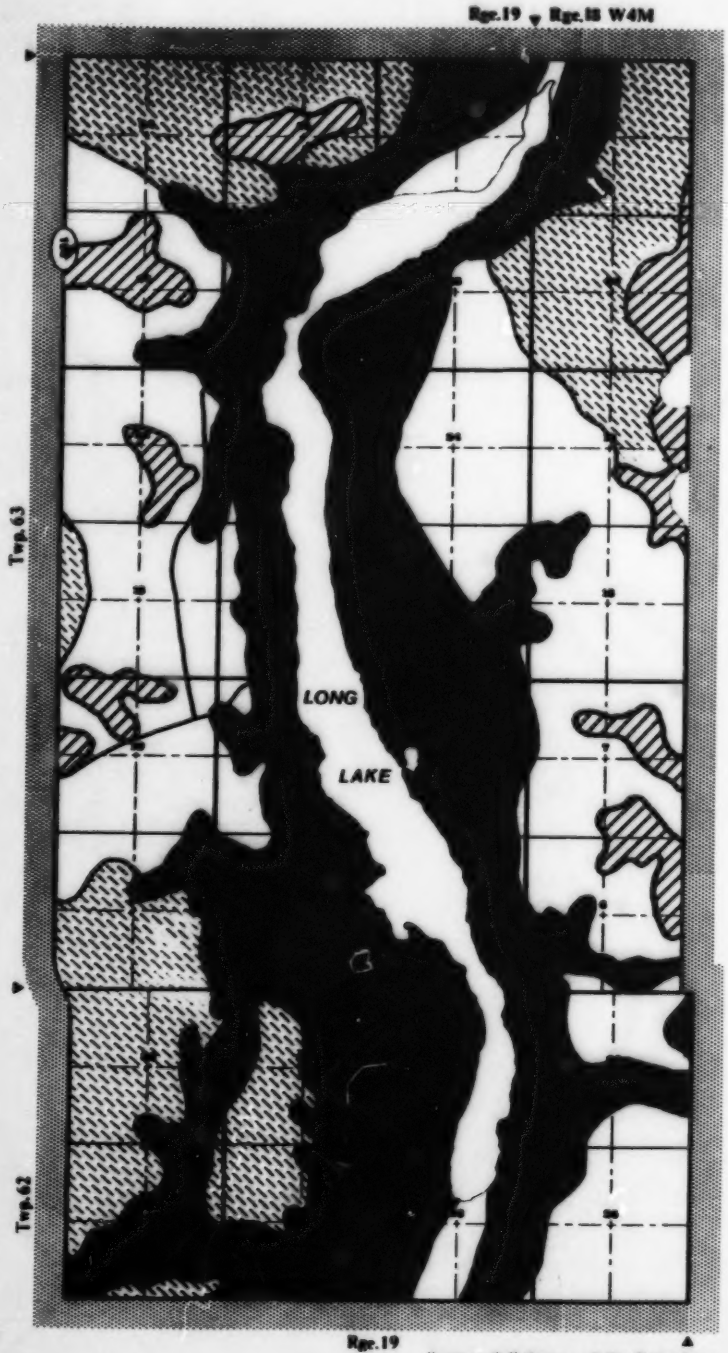
5-9%

9-15%

Scale: Kilometres

1 0 1 2 3 4

Source: Soil Survey of the Tawatinaw



Source: Soil Survey of the Tawatinaw

MAP 12

SOIL SUITABILITY FOR SEWAGE ASSIMILATION

GOOD
VARIABLE
FAIR
POOR

SOIL SLOPE:

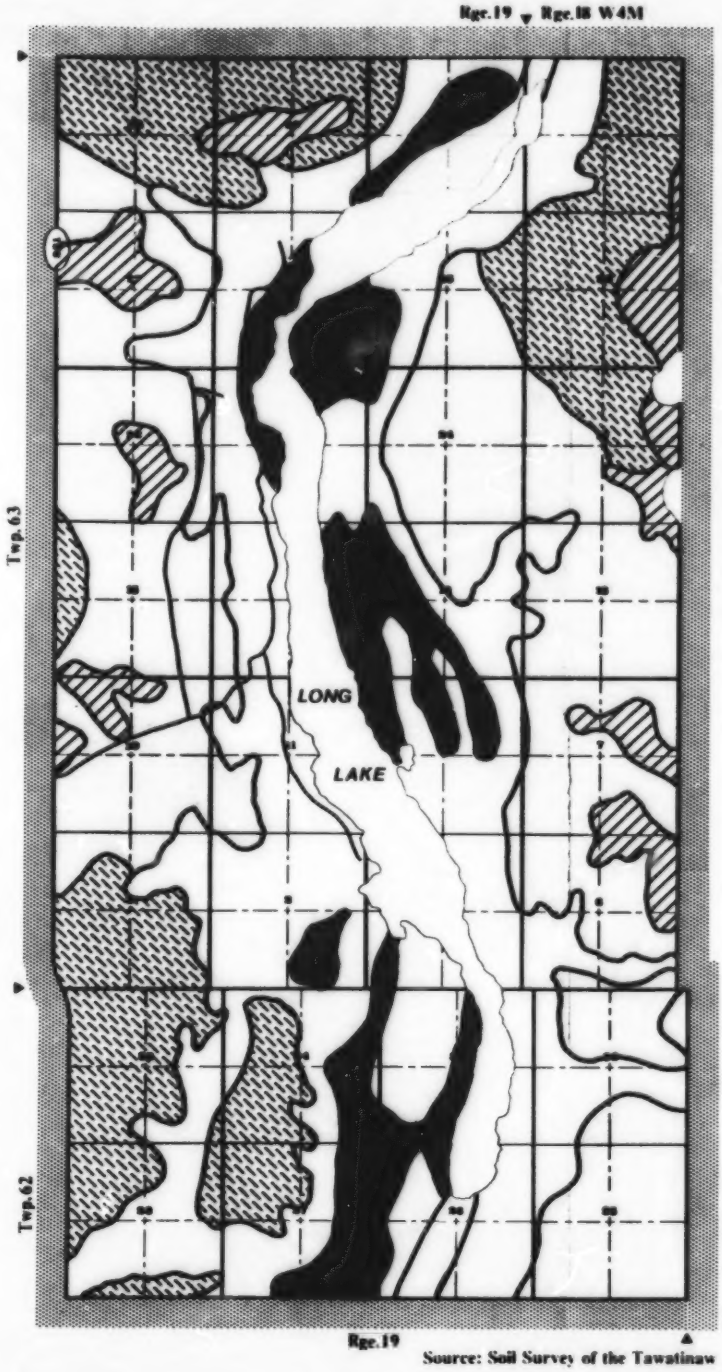
5-9%
9-15%

Scale: Kilometres

1 0 1 2 3 4

MAP 13

SOIL SUITABILITY FOR ROAD CONSTRUCTION



GOOD

GOOD-FAIR

FAIR

FAIR-POOR

POOR

SOIL SLOPE:

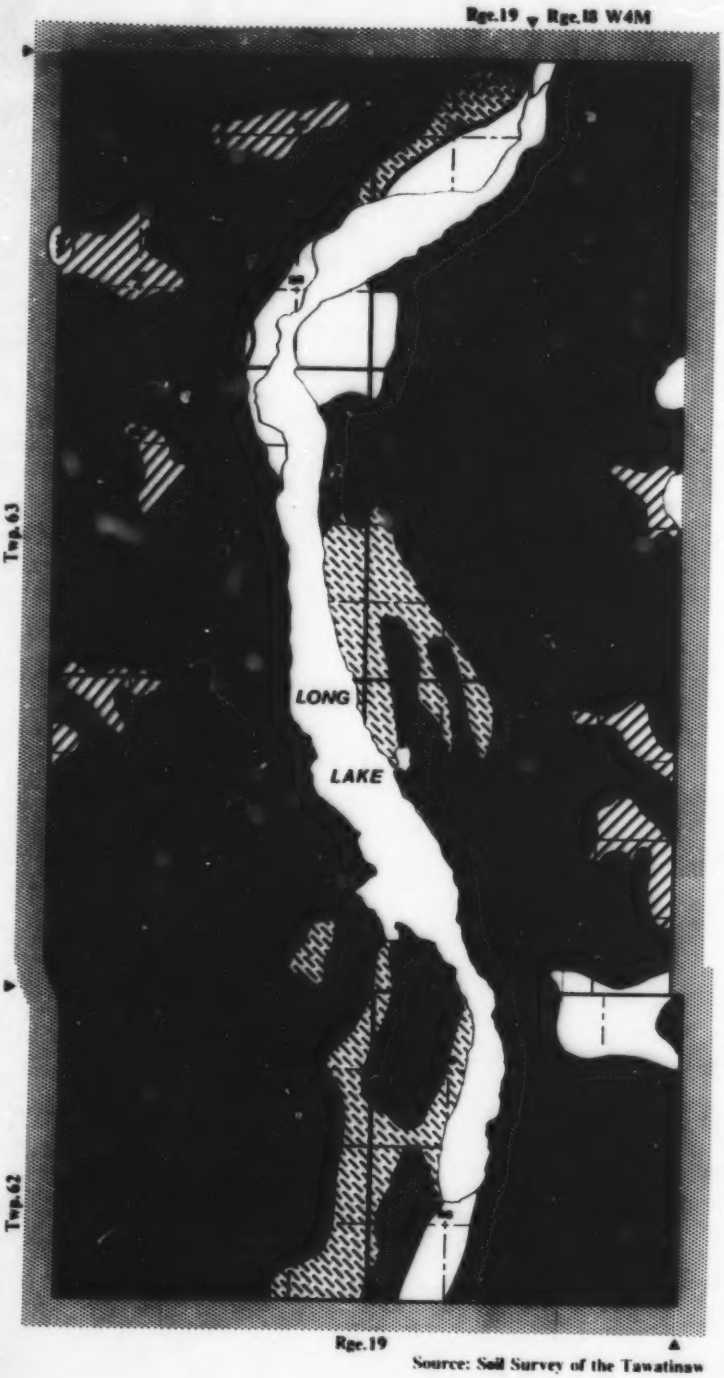
5-9%

9-15%

Scale: Kilometres

1 0 1 2 3 4

Source: Soil Survey of the Tawatinaw



Source: Soil Survey of the Tawatinaw

MAP 14

SOIL SUITABILITY FOR INTENSIVE RECREATION

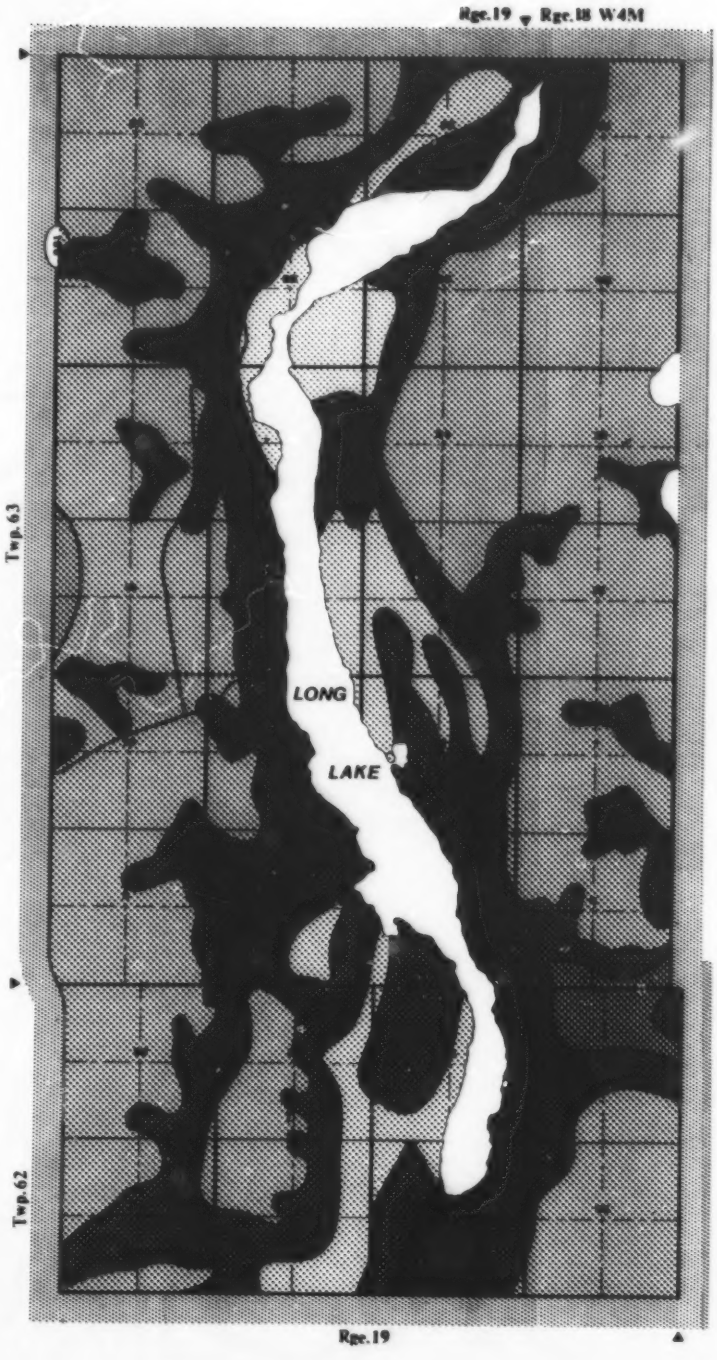
GOOD
VARIABLE
FAIR
POOR

SOIL SLOPE:

5-9%
9-15%

Scale: Kilometres

1 0 1 2 3 4



MAP 15

SOIL SUITABILITY FOR POTENTIAL DEVELOPMENT

- VERY GOOD
- GOOD
- GOOD - FAIR
- FAIR
- FAIR - POOR
- POOR
- VERY POOR

------- Long Lake Provincial Park Boundary

Scale: Kilometres

1 0 1 2 3 4

4. QUESTIONNAIRE

4.1 Introduction

Various social factors such as user demand, perceived levels of use and development, perceived problems and concerns, user satisfaction and quality of recreation experience often reflect the types and level of development options acceptable at a lake such as Long Lake. User attitudes, opinions, and concerns can provide a valuable measure of these social factors.

In October, 1985, a questionnaire was mailed to 154 property owners within the study area and completed and returned by 121 respondents. This represents a seventy-eight percent rate of return. In November, 1985, the survey results were compiled and analyzed and the following is a summary of some of the more significant reactions and concerns expressed by the respondents of the questionnaire.

4.2 Section A – General Information

The majority of respondents are seasonal residents (81%), returning to the cottage more than 10 times per year (72%) and on the average staying for two nights per visit (50%). From the mailing list, most of the property owners permanently reside in the Edmonton area. When asked about potable water, thirty-seven percent of the respondents transport it from home or acquire it from the community well (41%). The remaining twenty-one percent have private wells. Regarding waste disposal, the majority use a pit toilet (71%), whereas twenty-one percent have pump-out tanks. Some respondents expressed concern about pit toilets and water contamination and encouraged their replacement with pump-out tanks. The local landfill site is used for garbage disposal.

4.3 Section B – Recreation

The majority of respondents (79%) indicated a deficiency in the physical condition of the Long Lake, the most serious problem, shoreweeds. This statistic was supported by cottager's comments and observations. The Long Lake area is an all-season recreational area as evidenced by the questionnaire. General relaxation, fishing, and power boating are major activities in the summer, whereas snowmobiling, cross-country/downhill skiing and ice fishing occur in the winter months.

Boating, as previously identified, is a predominant summer activity and in all likelihood, the activity which causes the most concern amongst cottage owners. There are approximately 160 boats, ranging from canoes to jet boats on Long Lake. This figure excludes the numbers of boats launched from the Long Lake Provincial Park. The cottager's concern is substantiated statistically by noting that fifty-three percent expressed the need to restrict all or some types of boating in certain areas of Long Lake (ie. the Narrows). Not to encourage an increase in boating on Long Lake, sixty-four percent of the respondents indicated that additional boat launches are not required.

4.4 Section C – Your Views

The majority of respondents (55%) indicated that the fishing was fair. Similarly, sixty-four percent rated the water quality fair and indicated that the water quality was either getting worse (40%) or about the same (33%). With respect to lake use, it was adequately used on an average weekend, whereas overused on the long holiday weekend. The use of the beach in the cottage area was adequately used for both the regular and long weekends and the need for more beaches on Long Lake was split.

Although the majority of respondents (78%) indicated there were no land use conflicts, the comments submitted did not appear to support this statistic. The following problems were commonly identified:

1) accessibility and use of public reserve land;
2) use of motorbikes and A.T.V. near the cottage area and public reserve land; and
3) enforcement of building codes.

A majority of the respondents (65%) noted that there was no demand for more cottage development and an overwhelming majority of the respondents (91%) did not want additional cottage development in the area.

Eighty percent of the respondents indicated that there were no lake use conflicts, notwithstanding the expressed need to restrict all or some types of boating in some areas of Long Lake and comments expressing concern about swimming/boating, fishing/power boating, water-skiing/canoeing conflicts.

Many respondents contributed additional comments at the end of the questionnaire. Most of these comments expanded on concerns noted in the questionnaire itself such as weed control, boating regulation, and development. Other items of concern were taxes, municipal services, roads, and noise control of land and water surface vehicles.

5. EVALUATION AND SUMMARY

5.1 Introduction

Viable and appropriate management goals, options, and ultimately policies must reflect the realities of various development limitations and constraints which are present in the study area. Development limitations and constraints identified at Long Lake have been grouped for summary purposes according to physical development limitations and constraints and social and legal administrative concerns.

5.2 Physical Development Limitations and Constraints (Map 16)

The physical limitations and constraints identified at Long Lake are listed below:

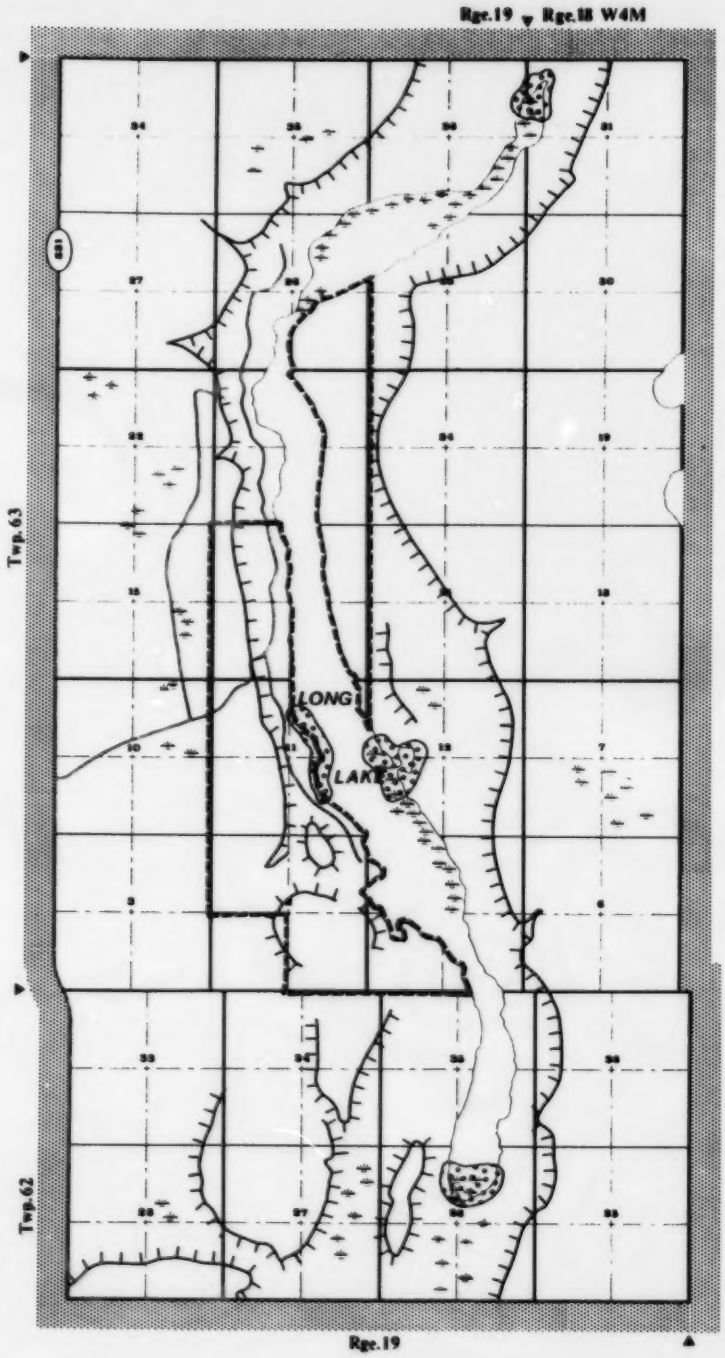
- high water table and/or poorly drained areas
- wetlands/marsh areas
- steep banks or slopes in excess of 15% slope
- extensive weed growth along shoreline and open areas
- extensive natural upland habitat area
- natural sensitivity of lake water quality to increased nutrient loading
- presence of lake navigational hazards (the Narrows)
- limited areas for additional development based on soil suitabilities
- limited areas for beach front development (C.L.I.)
- limited accessibility to study area.

5.3 Social and Administrative Concerns

Highlighted below are the important social and administrative issues that exist at Long Lake.

- the majority land in the study area is crown land
- the future development of Long Lake Provincial Park
- perception of present users on existing facilities and services provided by the municipality
- use of municipal reserves
- use of motorbikes and A.T.V.
- perception of present users towards more development
- boating oriented conflicts (excessive speeding, and conflicts between fishing, waterskiing, and power boating activities)
- perceived overuse of the lake during long holiday weekends
- deteriorating lake water quality

MAP 16
DEVELOPMENT CONSTRAINTS



STEEP SLOPES

SHORELINE WEEDS/WET AREAS

RIPARIAN HABITAT

------- Long Lake Provincial Park Boundary

Scale: Kilometres

1 0 1 2 3 4

5.4 Summary

The Long Lake study area appears to have limited potential for further recreational development. After considering the physical limitations and constraints and social concerns expressed, serious consideration should be employed when formulating a management plan for Long Lake.

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